

YU Yuanyuan (Ph.D.)

Academic qualifications:

2010.9-2015.11	PhD	School of Biomedical Sciences, Faculty of Medicine, The University of Hong Kong, Hong Kong S.A.R
2007.9-2010.7	MSc	Department of Microbiology, Liaoning University, P. R. China
2003.9-2007.7	BSc	School of Biotechnology, Weifang University, P. R. China

Previous academic position held:

2015.11-2019.04	Postdoctoral Research Fellow	Institute for Advancing Translational Medicine in Bone & Joint Diseases, School of Chinese Medicine, Hong Kong Baptist University
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Present academic position:

2019.5-2022.8	Research Assistant Professor	Institute for Advancing Translational Medicine in Bone & Joint Diseases, School of Chinese Medicine, Hong Kong Baptist University
2022.9-now	Assistant Professor	Teaching and Research Division, School of Chinese Medicine, Hong Kong Baptist University

Previous relevant research work:

Aptamer-based translational research and drug discovery

Publication records:

Section A-Five most representative publications in the recent five years

(# co-first author; * corresponding author)

1. **Yu, Y.#***, Wang, L.#, Ni, S#, Li, D., Liu, J., Chu, H.Y., Zhang, N., Ren, Q., Zhuo, Z., Zhong, C., Xie, D., Li, Y., Zhang, Z.K., Zhang, H., Li, M., Zhang Z., Chen L., Pan, X., Xia, W., Zhang, S., Lu, A.*, Zhang, B.T.* & Zhang, G*. Targeting loop3 of sclerostin preserves its cardiovascular protective action and promotes bone formation. *Nature Communications* 2022, 13, 1, 4241. (IF: 17.694)
2. Wang, L.#, **Yu, Y.#***, Ni, S,# Li, D., Liu, J., Xie, D., Chu, H.Y., Ren, Q., Zhong, C., Zhang, N., Li, N., Sun, M., Zhang, Z.K., Zhuo, Z., Zhang, H., Zhang, S., Li, M., Xia, W., Zhang Z., Chen L., Shang, P., Pan, X., Lu, A.*, Zhang, B.T.* & Zhang, G*. Therapeutic aptamer targeting sclerostin loop3 for promoting bone formation without increasing cardiovascular risk in osteogenesis imperfecta mice. *Theranostics* 2022 12, 13,5645-5674. (IF: 11.6)
3. **Yu, Y.**, Liu, M., Choi, V. N. T., Cheung, Y. W., Tanner, J*. A. Selection and characterization of DNA aptamers inhibiting a druggable target of osteoarthritis, ADAMTS-5. *Biochimie* 2022, S0300-9084(22) 00163-8. (IF: 4.372)
4. Zhang N, Liu DD, Jiang HW, Zhao Y, Zhang ZK, Lyu AP, Zhang BT*, **Yu YY***,

- Zhang G*. Structural biology for the molecular insight between aptamers and target proteins. *Front Cell Dev Biol. Int. J. Mol. Sci.* 2021 Apr 15;22(8):4093. doi: 10.3390/ijms22084093. (IF: 7.561)
- Zhuo ZJ, Wan YY, Guan DG, Ni SJ, Wang LY, Zhang ZK, Liu J, Liang C, **Yu YY**, Lu A, Zhang G, Zhang BT. A Loop-Based and AGO-Incorporated Virtual Screening Model Targeting AGO-Mediated miRNA–mRNA Interactions for Drug Discovery to Rescue Bone Phenotype in Genetically Modified Mice. *Advanced Science*. 2020, 13(7): 1903451:1-22. (JUL 2020) (IF: 17.52)

Section B-Five most representative publications beyond the recent five-year period with the latest publication entered first

- Liu Y, Wang NJ, Chan CW, Lu AP, **Yu YY (corresponding author)**, Zhang G and Ren KN (2021) The Application of Microfluidic Technologies in Aptamer Selection. *Front. Cell Dev. Biol.*, 17 September 2021 | <https://doi.org/10.3389/fcell.2021.730035>
- Zhang N, Liu DD, Jiang HW, Zhao Y, Zhang ZK, Lyu AP, Zhang BT (corresponding author), **Yu YY (corresponding author)**, Zhang G (corresponding author). (2021) Structural biology for the molecular insight between aptamers and target proteins. *Int J Mol Sci.* Apr 15;22(8):4093. doi: 10.3390/ijms22084093.
- Liu J, Wu XH, Lu J, Huang GX, Dang L, Zhang HR, Zhong CX, Zhang ZK, Li DJ, Li FF, Liang C, **Yu YY**, Zhang BT, Chen L, Lu AP & Zhang G, (2021) Exosomal transfer of osteoclast-derived miRNAs to chondrocytes contributes to osteoarthritis progression. *Nature Aging*. volume 1, pages368–384
- Wu X, Li F, Li Y, **Yu Y**, Liang C, Zhang B, Zhao C, Lu A, Zhang G. A PD-L1 Aptamer Selected by Loss-Gain Cell-SELEX Conjugated with Paclitaxel for Treating Triple-Negative Breast Cancer. *Med Sci Monit.* 2020 Jun 23;26:e925583. doi: 10.12659/MSM.925583.
- Yu Y**, Liang C., Lv Q., Li D., Xu X., Liu B., Lu A. & Zhang G. (2016) Molecular selection, modification and development of therapeutic oligonucleotide aptamers. *Int J Mol Sci* 17(3):358. (*first author*)

Patents:

- Zhang G, Yu Y, He Y, Chu HY. (2021) Aptamers against sclerostin and their applications (PCT/CN202111127857.6)
- Zhang BT, Liu ZL, **Yu Y** & Lyu C. (2018) A GAIN-LOSS cell-SELEX methodology for the selection of aptamers against transmembrane proteins, and its application. 2018112387939.0
- Zhang G, **Yu Y**, Ni S & He Y. (2019) Aptamers against sclerostin and their applications, China Patent (PCT/CN2019/074764)
- A new nucleic acid aptamer drug for the treatment of Osteogenesis Imperfecta, Orphan Drug Designation, US FDA, 2019, DRU-2019-6966.